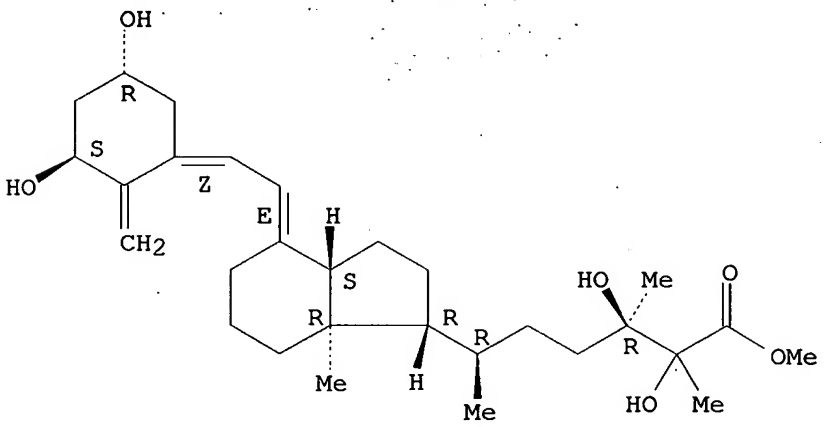
bile collected for 24 h was treated with .beta.-glucuronidase and arylsulfatase at 37.degree. for 3 h to give I (R1 = Me, R2 = CO2Me) (III) and I (R1 = CO2Me, R2 = Me) (IV). III or IV was incubated with HL-60 human leukemia cells to increase the no. of cells capable of reducing NBT. Tablets and injections contg. III or IV were also formulated.

IT **221176-86-9P**
RL: BAC (Biological activity or effector, except adverse); BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); MFM (Metabolic formation); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); USES (Uses)
(prodn. of active vitamin D derivs. from bile of animal given dihydroxyvitamin D4 and their uses)

RN 221176-86-9 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19)-trien-26-oic acid, 1,3,24,25-tetrahydroxy-, methyl ester, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.




L11 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:106958 HCAPLUS

DN 130:209851

TI Preparation of active vitamin D derivatives and their use as bone density improvers, differentiation inducers, and immunosuppressants causing no hypercalcemia

IN Tachibana, Yoji

PA Nisshin Flour Milling Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF

DT **Patent**

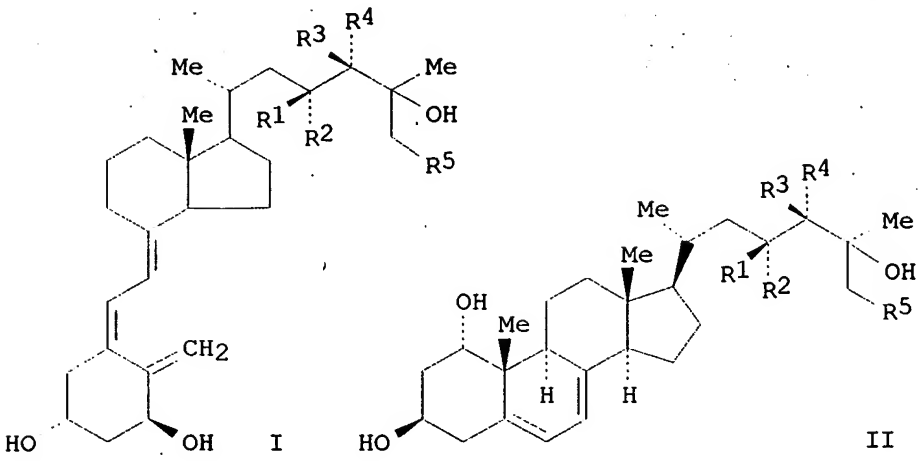
LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| PI JP 11035553 | A2 | 19990209 | JP 1997-194200 | 19970718 |

OS MARPAT 130:209851

GI



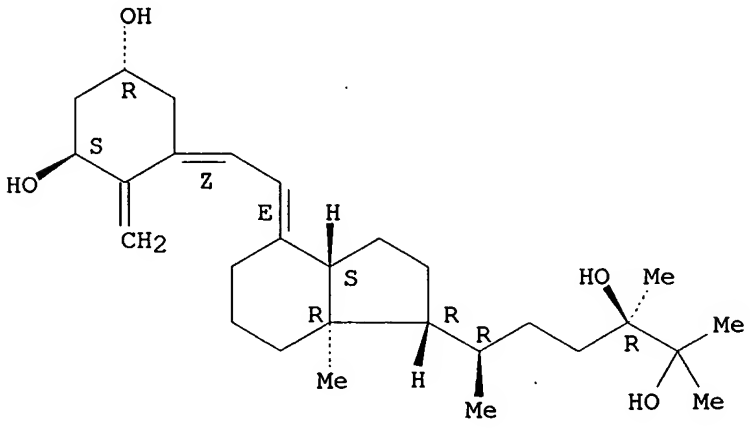

AB The derivs. I (R1, R2, R5 = H, OH; R1 = R2 .noteq. OH; R3, R4 = H, OH, Me; R3 = R4 .noteq. H, Me) are prepd. by irradn. of diene compds. II (R1-R5 = same as above) with UV ray, then thermal isomerization. II (R1 = R2 = R3 = H, R4 = Me, R5 = OH) (200 mg) was irradiated with a high-pressure Hg lamp for 10 min and subjected to thermal isomerization to give 24 mg I (R1 = R2 = R3 = H, R4 = Me, R5 = OH). The product showed high affinity to 1,25-dihydroxyvitamin D3 receptor.

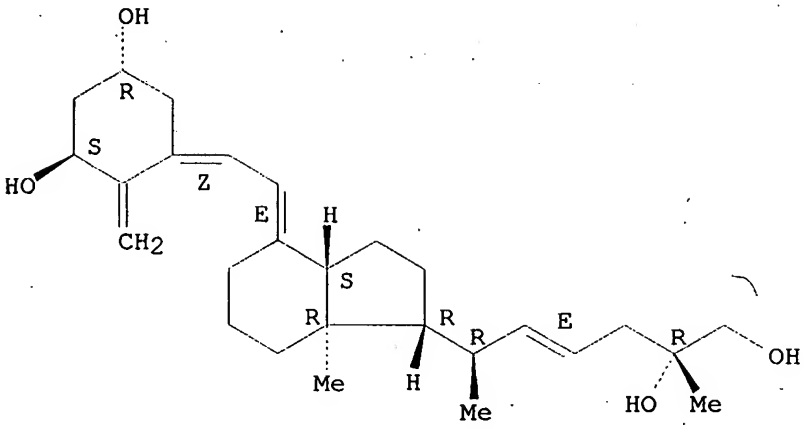
IT **179189-36-7P 220875-68-3P**
RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of active vitamin D derivs. as bone d. improvers, differentiation inducers, and immunosuppressants causing no hypercalcemia)

RN 179189-36-7 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19)-triene-1,3,24,25-tetrol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.






RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 13 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:502218 HCAPLUS
DN 131:284266
TI Physiological significance of C-28 hydroxylation in the metabolism of 1.alpha.,25-dihydroxyvitamin D2
AU Rao, D. Sunita; Siu-Caldera, Mei-Ling; Uskokovic, Milan R.; Horst, Ronald L.; Reddy, G. Satyanarayana
CS Department of Pediatrics, Women and Infants' Hospital of Rhode Island, Brown University School of Medicine, Providence, RI, 02905, USA
SO Arch. Biochem. Biophys. (**1999**), 368(2), 319-328
CODEN: ABBIA4; ISSN: 0003-9861
PB Academic Press
DT Journal
LA English
AB In our previous study, we indicated for the first time that C-28 hydroxylation plays a significant role in the metab. of 1.alpha.,25-dihydroxyvitamin D2 [1.alpha.,25(OH)2D2] by identifying 1.alpha.,24(S),25,28-tetrahydroxyvitamin D2 [1.alpha.,24(S),25,28(OH)4D2] as a major renal metabolite of 1.alpha.,25(OH)2D2 [G. S. Reddy and K-Y. Tserng, 1986]. The present study was performed to establish the physiol. significance of C-28 hydroxylation in the metab. of 1.alpha.,25(OH)2D2. We perfused rat kidneys in vitro with 1.alpha.,25(OH)2[26,27-3H]D2 (5 .times. 10-10M) and demonstrated that 1.alpha.,24(R),25-trihydroxyvitamin D2 [1.alpha.,24(R),25(OH)3D2] and 1.alpha.,24(S),25,28(OH)4D2 are the only two major physiol. metabolites of 1.alpha.,25(OH)2D2. In the same perfusion expts., we also noted that there is no conversion of 1.alpha.,25(OH)2D2 into 1.alpha.,25,28-trihydroxyvitamin D2[1.alpha.,25,28(OH)3D2]. Moreover, 1.alpha.,24(S),25,28(OH)4D2 is not formed in the perfused rat kidney when synthetic 1.alpha.,25,28(OH)3D2 is used as the starting substrate. This finding indicates that C-28 hydroxylation of 1.alpha.,25(OH)2D2 occurs only after 1.alpha.,25(OH)2D2 is hydroxylated at C-24 position. At present the enzyme responsible for the C-28 hydroxylation of 1.alpha.,24(R),25(OH)3D2 in rat kidney is not known. Recently, it was found that 1.alpha.,25(OH)2D3-24-hydroxylase (CYP24) can hydroxylate carbons 23, 24, and 26 of various vitamin D3 compds. Thus, it may be speculated that CYP24 may also be responsible for

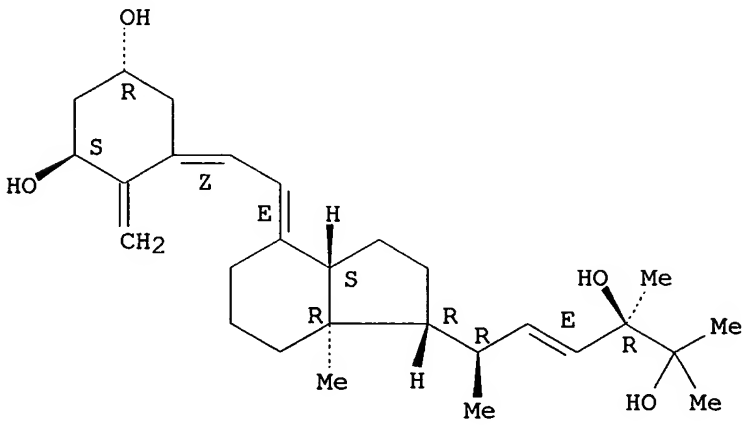
the C-28 hydroxylation of 1.alpha.,24(R),25(OH)3D2 to form 1.alpha.,24(S),25,28(OH)4D2. The biol. activity of 1.alpha.,24(S),25,28(OH)4D2, detd. by its ability to induce intestinal calcium transport and bone calcium resorption in the rat, was found to be almost negligible. Also, 1.alpha.,24(S),25,28(OH)4D2 exhibited very low binding affinity toward bovine thymus vitamin D receptor. These studies firmly establish that C-28 hydroxylation is an important enzymic reaction involved in the inactivation of 1.alpha.,25(OH)2D2 in kidney under physiol. conditions. (c) 1999 Academic Press.

IT **100496-04-6**
RL: BAC (Biological activity or effector, except adverse); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(dihydroxyvitamin D2 C-28 hydroxylation and biol. inactivation by rat kidney)

RN 100496-04-6 HCAPLUS

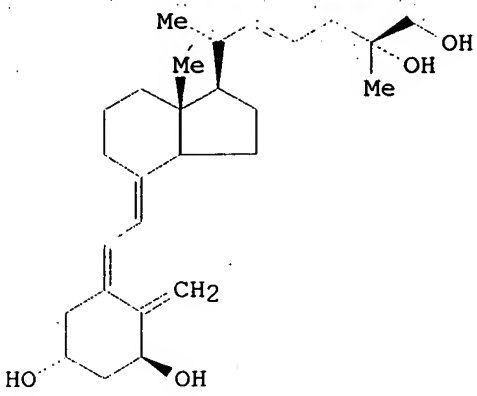
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

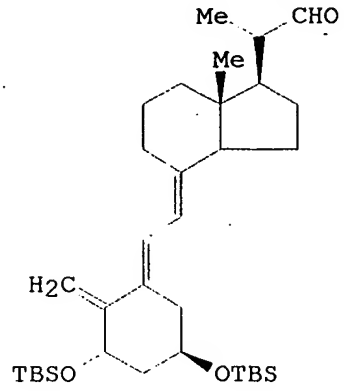



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

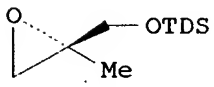
L13 ANSWER 14 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1999:396342 HCAPLUS
DN 131:194395
TI Vitamin D assays and their clinical utility
AU Horst, Ronald L.; Hollis, Bruce W.
CS Metabolic Diseases and Immunology Research Unit, Agricultural Research Service, National Animal Disease Center, US Department of Agriculture, Ames, IA, USA
SO Vitam. D (**1999**), 239-271. Editor(s): Holick, Michael F.
Publisher: Humana, Totowa, N. J.
CODEN: 67UOAT
DT Conference; General Review
LA English
AB A review, with 139 refs., on assay methodol. for vitamin D and its metabolites 25-hydroxyvitamin D3, 24,25-dihydroxyvitamin D3, 1.alpha.,25-dihydroxyvitamin D3, 1,24,25-trihydroxyvitamin D3,



I



II



III

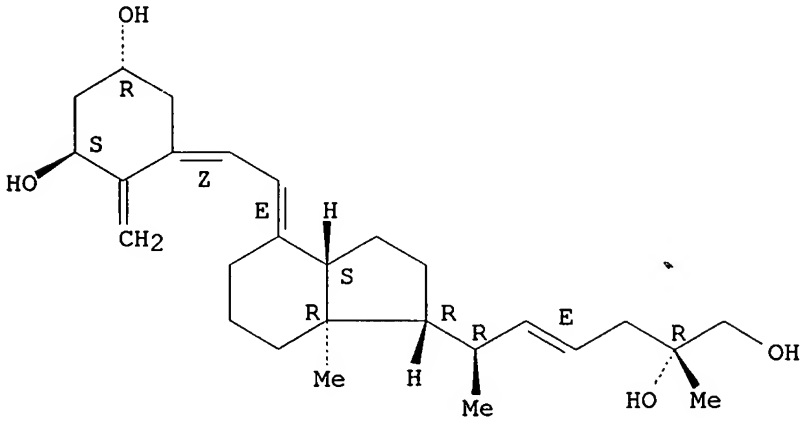
AB The title compd. I was prepd. from C22-aldehyde II (TBS = tert-butyldimethylsilyl) in 51% overall yield. The key feature of this synthesis is a one-pot construction of the requisite side chain using .alpha.-lithiomethylenetriphenylphosphorane Ph3P:CHLi and com. available (S)-2-methylglycidol III (TDS = thexyldimethylsilyl).

IT **103335-39-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 103335-39-3 HCAPLUS

CN 9,10-Secocholesta-5,7,10(19),22-tetraene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E,22E,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L13 ANSWER 31 OF 95 HCAPLUS COPYRIGHT 2002 ACS

AN 1994:182476 HCAPLUS

DN 120:182476

TI metabolism and biological activity of 1,25(OH)2D2 and its metabolites in a chronic myelogenous leukemia cell line, RWLeu-4

AU Clark, J.W.; Reddy, G.S.; Santos-Moore, A.; Wankadiya, K.F.; Reddy, G.P.; Eil, C.; Lasky, S.; Tserng, K Y.; Horst, R.L.

CS Sch. Med., Brown Univ., Providence, RI, 02908, USA

SO Bioorg. Med. Chem. Lett. (**1993**), 3(9), 1873-8
CODEN: BMCLE8; ISSN: 0960-894X

DT Journal

LA English

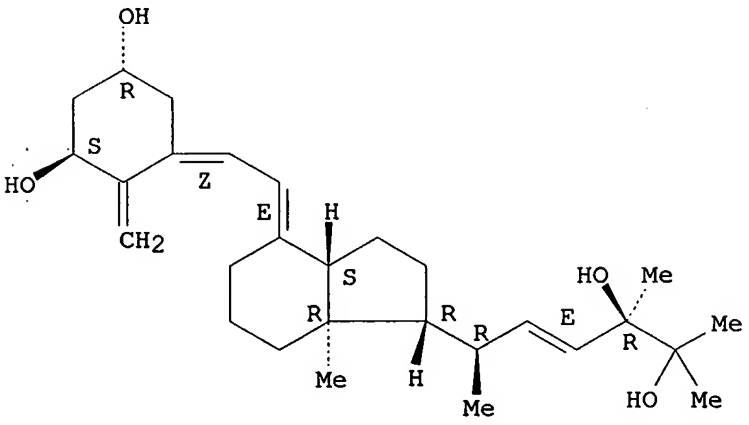
AB The authors previously described the metab. of 1,25(OH)2D2 into various side chain hydroxylated metabolites formed as a result of C-24, C-26 and C-28 hydroxylations in rat kidneys. The authors now demonstrate C-24 hydroxylation of 1,25(OH)2D2 in human leukemic cells and also present evidence to show that C-24 and C-26 hydroxylations either alone or in combination do not significantly alter the effect of 1,25(OH)2D2 on these cells, while C-28 hydroxylation reduces its activity.

IT **100496-04-6 103305-11-9**
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metab. and antitumor activity of, in myelogenous leukemia of humans, as dihydroxyvitamin D2 metabolite)

RN 100496-04-6 HCAPLUS

CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

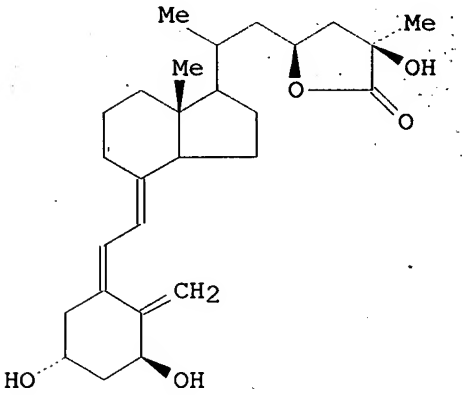



RN 103305-11-9 HCAPLUS

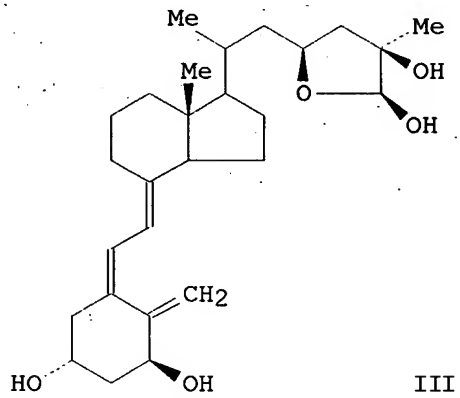
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25,26-pentol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

L13 ANSWER 54 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1987:452924 HCAPLUS
DN 107:52924
TI Metabolic pathways from 1.alpha.,25-dihydroxyvitamin D3 to 1.alpha.,25-dihydroxyvitamin D3-26,23-lactone. Stereo-retained and stereo-selective lactonization
AU Ishizuka, Seiichi; Norman, Anthony W.
CS Dep. Biochem., Teijin Inst. Bio-Med. Res., Hino, 191, Japan
SO J. Biol. Chem. (**1987**), 262(15), 7165-70
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
GI




I

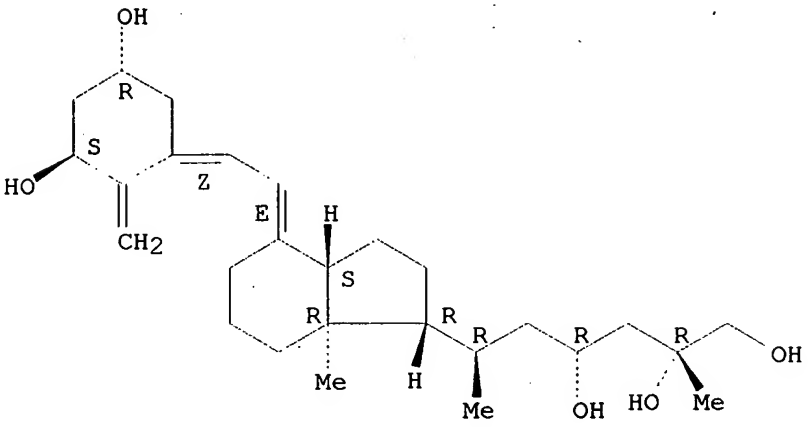



III

AB Naturally occurring 23(S),25(R)-1.alpha.,25-dihydroxyvitamin D3 26,23-lactone (I) was produced in increasing amts. from 1.alpha.,25-dihydroxyvitamin D3 (II); 1.alpha.,25(R),26-trihydroxyvitamin D3 [1.alpha.,25(R),26-(OH)3D3]; 1.alpha.,25(S),25-(OH)3D3; 1.alpha.,23(S),25(R),26-tetrahydroxyvitamin D3 [1.alpha.,23(S),25(R),26-(OH)4D3]; and 23(S),25(R)-1.alpha.,25-dihydroxyvitamin D3 26,23-lactol (III) by II-supplemented chicken kidney and intestine mucosa homogenates. Thus, there are 2 possible metabolic pathways from II to 1.alpha.,23(S),25(R),26-(OH)4D3: the major pathway is by way of 1.alpha.,23(S),25-(OH)3D3 and the minor pathway is by way of 1.alpha.,25(R),26-(OH)3D3. 1.alpha.,23(S),25(R),26-(OH)4D3 is further metabolized to I via III. III was isolated in pure form and identified by UV spectrophotometry and mass spectrometry. Lactonization of 1.alpha.,23(S),25(R),26-(OH)4D3 and III occurred in a stereo-retained and stereoselective fashion.
IT **108131-93-7 108131-94-8 108211-12-7**
RL: BIOL (Biological study)
(dihydroxyvitamin D3 lactone formation from, by kidney, stereochem. in relation to)
RN 108131-93-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,23,25,26-pentol, (1.alpha.,3.beta.,5Z,7E,23R,25R)- (9CI) (CA INDEX NAME)

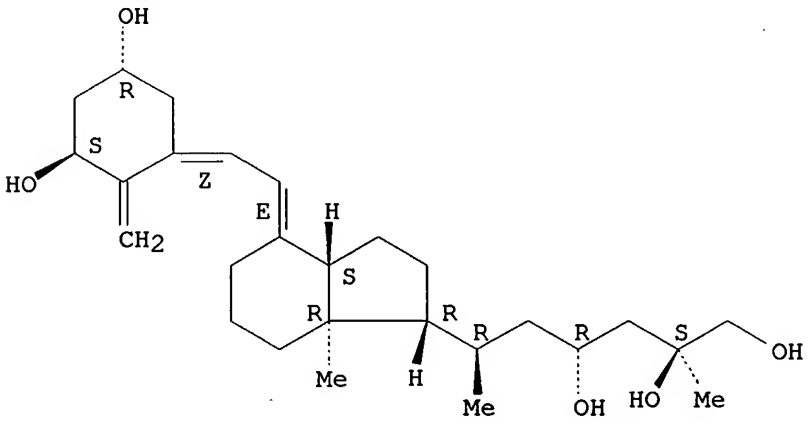
Absolute stereochemistry.

Double bond geometry as shown.



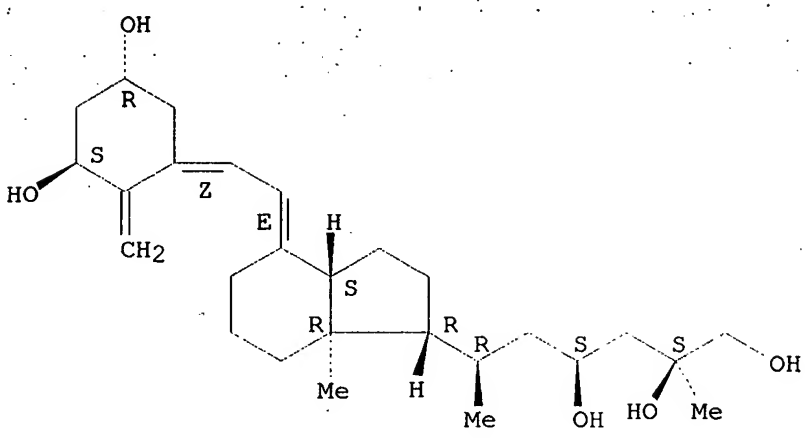

RN 108131-94-8 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,23,25,26-pentol, (1.alpha.,3.beta.,5Z,7E,23R,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



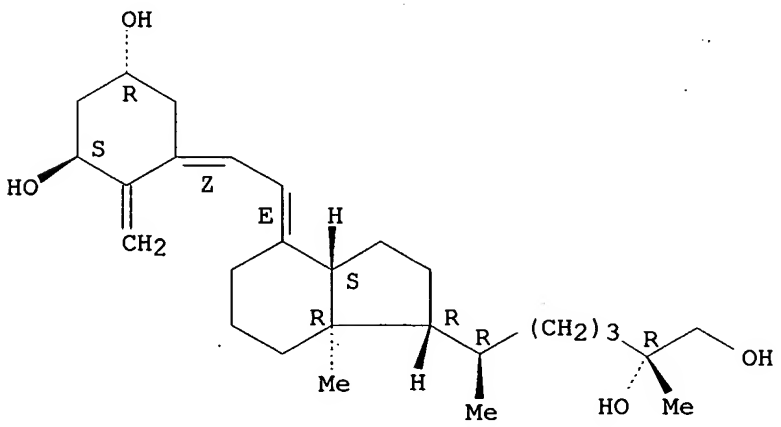

RN 108211-12-7 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,23,25,26-pentol, (1.alpha.,3.beta.,5Z,7E,23S,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



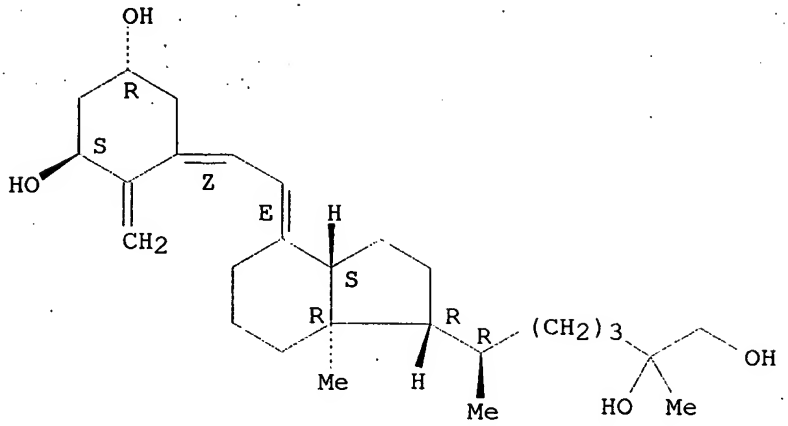
IT **81176-40-1 100634-18-2**
RL: BIOL (Biological study)
(dihydroxyvitamin D3 lactone formation from, in intestine and kidney)
RN 81176-40-1 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol,
(1.alpha.,3.beta.,5Z,7E,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



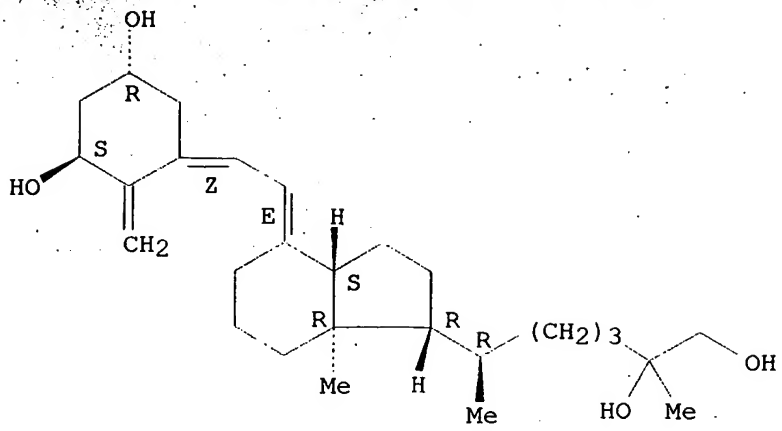
RN 100634-18-2 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,23,25,26-pentol,
(1.alpha.,3.beta.,5Z,7E,23S,25R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



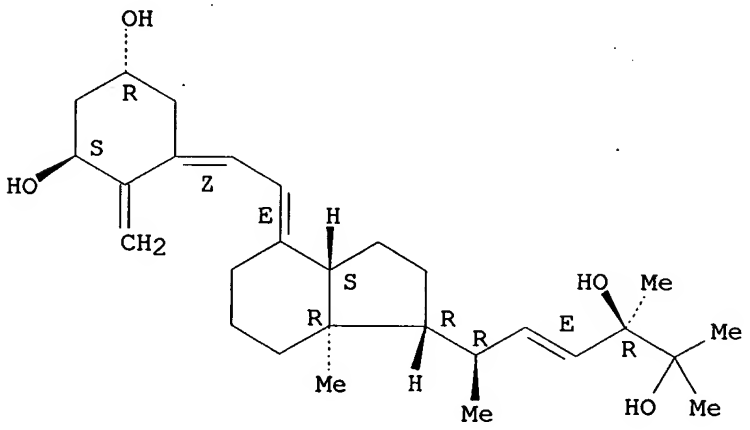
L13 ANSWER 58 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:587053 HCAPLUS
DN 105:187053
TI Isolation and identification of vitamin D metabolites
AU Napoli, Joseph L.; Koszewski, Nick J.; Horst, Ronald L.
CS Dep. Biochem., Univ. Buffalo, Buffalo, NY, 14214, USA
SO Methods Enzymol. (**1986**), 123(Vitam. Coenzymes, Pt. H), 127-40
CODEN: MENZAU; ISSN: 0076-6879
DT Journal
LA English
AB Extn. and cleanup of vitamin D metabolites from animal tissues and cells are briefly discussed. HPLC systems for sepg. hydroxylated vitamin D derivs. are examd. in detail; elution patterns of metabolites with various stationary and mobile phases are outlined. UV spectroscopy, electron-impact and chem.-ionization mass spectroscopy, chem. modification prior to detn., and NMR spectroscopy of vitamin D metabolites are presented.
IT **78780-98-0 100496-04-6 101151-55-7**
RL: ANST (Analytical study)
(sepn. and detection of, by HPLC and spectroscopy)
RN 78780-98-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 100496-04-6 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



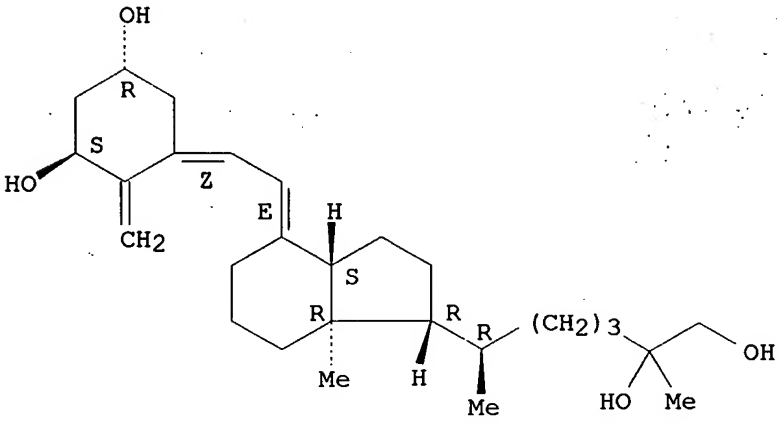
RN 101151-55-7 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

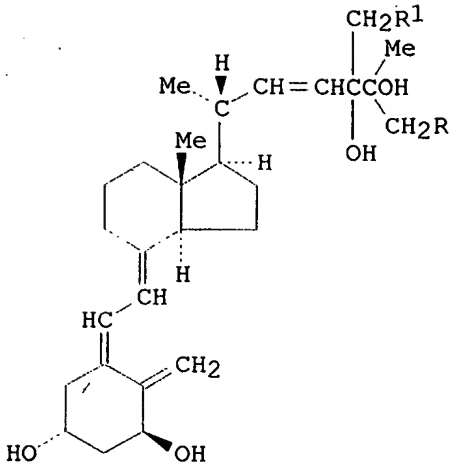
achieved with analogs of I in accordance with their binding affinity for the hormone's receptor. Only cells with I receptor protein were inhibited in their colony formation by vitamin D analogs, indicating that the hormone receptor complex may be integrally involved in the in vitro suppression of the anchorage-independent phenotype.

IT **78780-98-0**
RL: BIOL (Biological study)
(cancer cell growth inhibition by, receptor in relation to)
RN 78780-98-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.




L13 ANSWER 61 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:531100 HCAPLUS
DN 105:131100
TI Isolation and identification of 1,24,25-trihydroxyvitamin D2, 1,24,25,28-tetrahydroxyvitamin D2, and 1,24,25,26-tetrahydroxyvitamin D2: new metabolites of 1,25-dihydroxyvitamin D2 produced in the rat kidney
AU Reddy, G. Satyanarayana; Tserng, Kou Yi
CS Cleveland Metrop. Gen. Hosp., Case West. Reserve Univ., Cleveland, OH, 44109, USA
SO Biochemistry (**1986**), 25(18), 5328-36
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
GI



I, R=R1=H
II, R=H, R1=OH
III, R=OH, R1=H

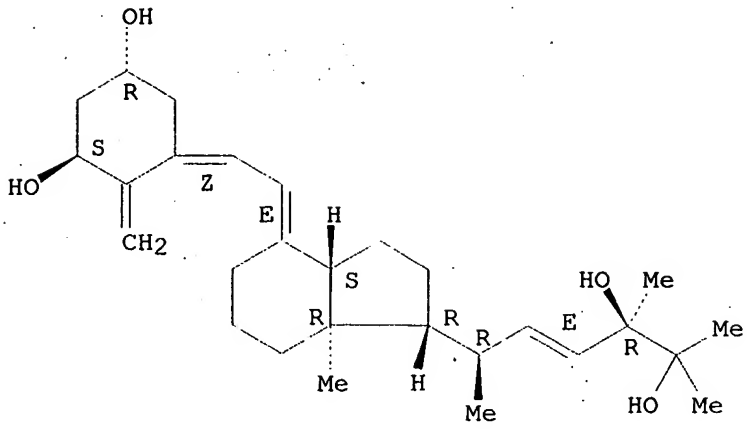
AB Three new metabolites of vitamin D2 were produced in vitro by perfusing isolated rat kidneys with 1,25-dihydroxyvitamin D2. They were isolated and purified from the kidney perfusate by the techniques of MeOH-CH2Cl2 lipid extn. and HPLC. By means of UV absorption spectrophotometry, mass spectrometry, and specific chem. reactions, the metabolites were identified as 1,24,25-trihydroxyvitamin D2 (I) 1,24,25,28-tetrahydroxyvitamin D2 (II), and 1,24,25,26-tetrahydroxyvitamin D2 (III). Both II and III were also produced when a kidney was perfused with I. Thus, it becomes clear that 1,25-dihydroxyvitamin D2 is 1st hydroxylated at C-24 to form I, which is then further hydroxylated at C-28 and C-26 to form II and III, resp. From several recent studies, it has been well established that 1,25-dihydroxyvitamin D3 is converted into various further metabolites in the kidney as a result of chem. reactions such as C-23, C-24, and C-26 hydroxylations, C-24 ketonization, and C-23:C-26 lactonization. From this study it is obvious that 1,25-dihydroxyvitamin D2 does not undergo all of the aforementioned chem. reactions except C-24 and C-26 hydroxylations. In addn., C-28 hydroxylation plays a significant role in the further metab. of 1,25-dihydroxyvitamin D2.

IT **100496-04-6 103305-11-9**
RL: FORM (Formation, nonpreparative)
(formation of, by kidney)

RN 100496-04-6 HCAPLUS

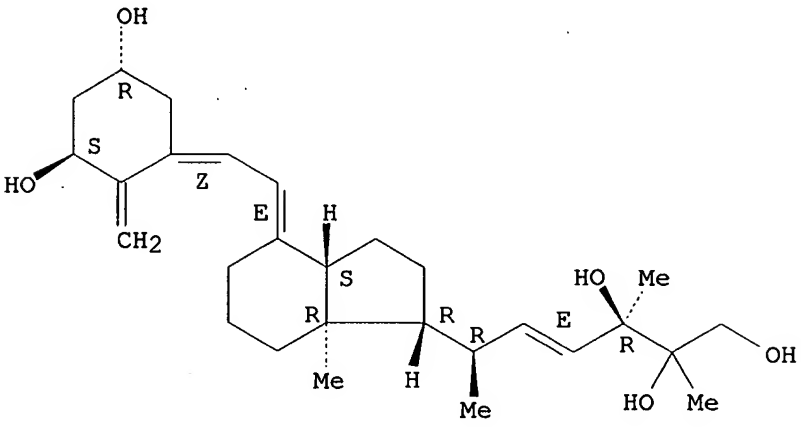
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25-tetrol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

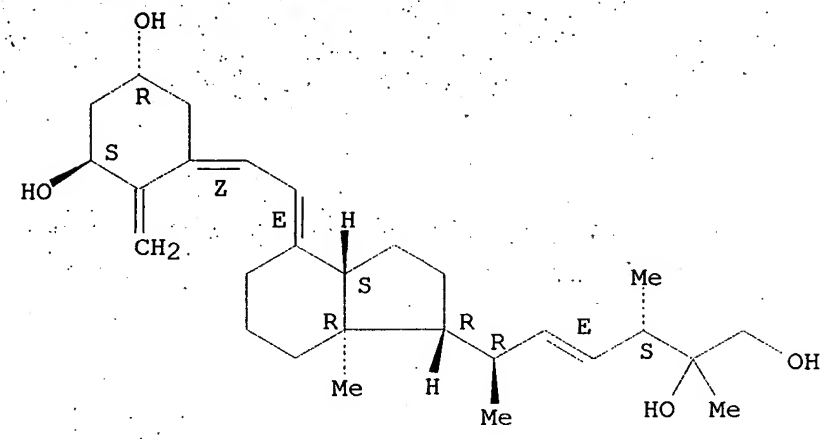


RN 103305-11-9 HCAPLUS
CN 9,10-Secoergosta-5,7,10(19),22-tetraene-1,3,24,25,26-pentol, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

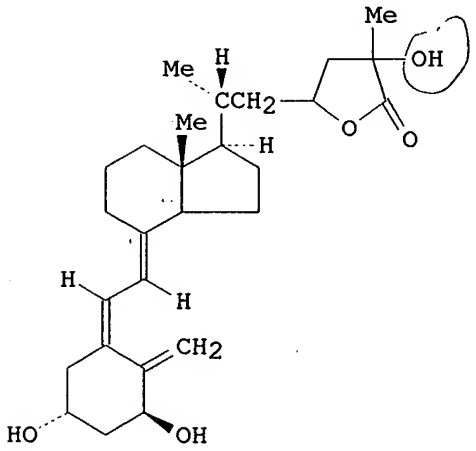
Absolute stereochemistry.
Double bond geometry as shown.



IT **103321-15-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and mass spectroscopy of)
RN 103321-15-9 HCAPLUS
CN 27-Nor-9,10-secoergosta-5,7,10(19),22-tetraen-25-one, 1,3,24-trihydroxy-, (1.alpha.,3.beta.,5Z,7E,22E)- (9CI) (CA INDEX NAME)

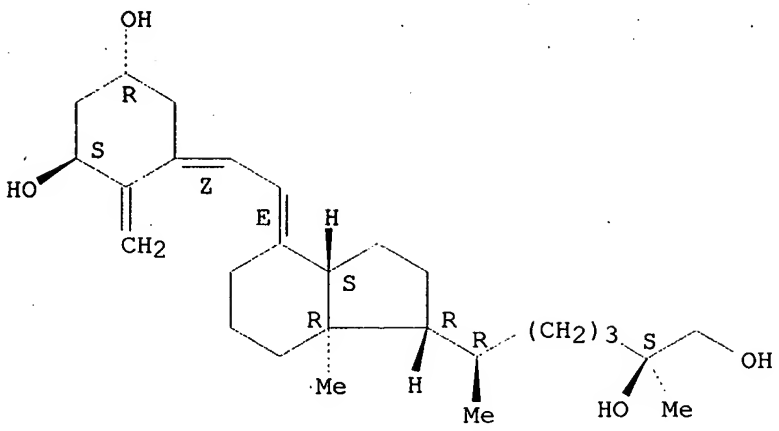


L13 ANSWER 65 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1986:108310 HCAPLUS
DN 104:108310
TI Biological activity and characteristics of 1.alpha.,25-(OH)2D3-26,23-lactone
AU Ishizuka, S.; Kiyoki, M.; Orimo, H.; Norman, A. W.
CS Teijin Inst. Bio-Med. Res., Tokyo, Japan
SO Proc. Workshop Vitam. D (**1985**), 6th(Vitam. D), 402-3
CODEN: PWVDDU; ISSN: 0721-7110
DT Journal
LA English
GI

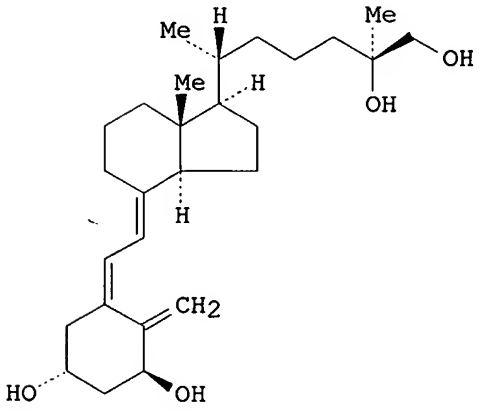


I

AB The biol. activity and characteristics of 4 diastereoisomers of 1.alpha.,25-dihydroxyvitamin D3 26,23-lactone (I) [75519-08-3] are discussed. The metabolic pathway for formation of the natural stereoisomer of I, 23(S),25(R)-I [81203-50-1] from 1.alpha.,25-dihydroxyvitamin D3 [32222-06-3] by chick kidney homogenate was through 1.alpha.,23(S),25(R),26-tetrahydroxyvitamin D3 [**100634-18-2**].




L13 ANSWER 68 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:615623 HCAPLUS
DN 103:215623
TI (25S)-26-Hydroxycalcitriol
CS Johann Wolfgang Goethe-Universitaet, Inst. Org. Chem., Frankfurt/Main, D-6000/50, Fed. Rep. Ger.
SO Synform (**1985**), 3(2), 94-100
CODEN: SNFMDF
DT Journal; General Review
LA English
GI

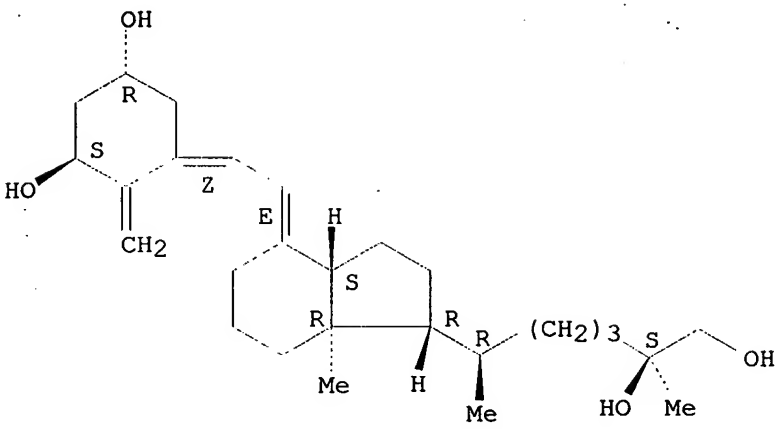



I

AB Review of total syntheses of the title compd. (I) published since 1967.
IT **77372-59-9P 78780-98-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(total synthesis of)
RN 77372-59-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E,25S)- (9CI) (CA INDEX NAME)

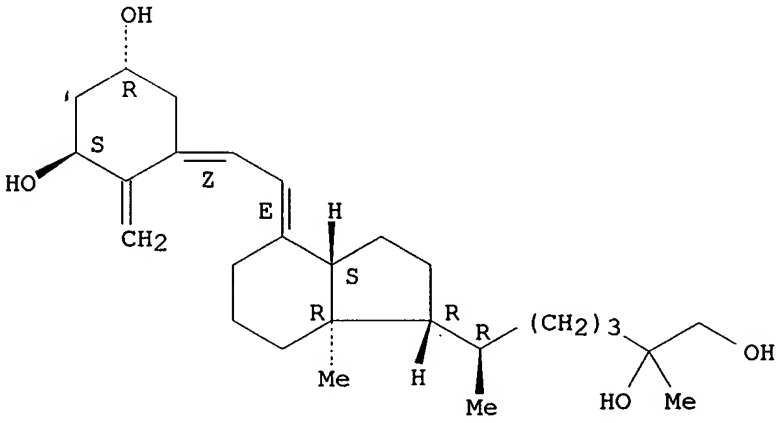
Absolute stereochemistry.

Double bond geometry as shown.



RN 78780-98-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



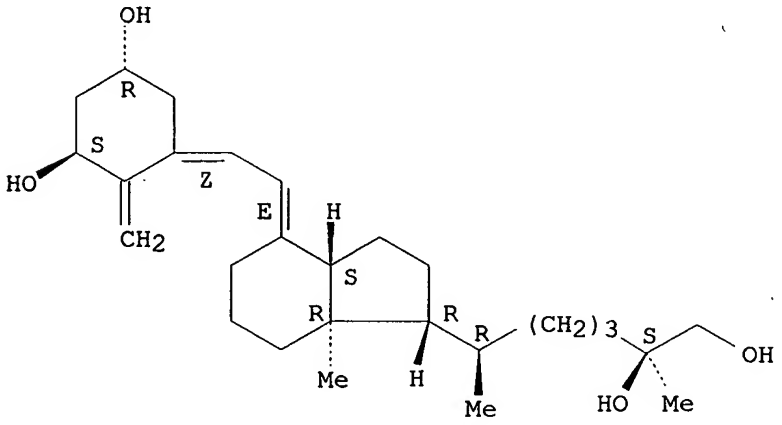
L13 ANSWER 69 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:436524 HCAPLUS
DN 103:36524
TI Vitamin D metabolites regulate osteocalcin synthesis and proliferation of human bone cells in vitro
AU Skjodt, H.; Gallagher, J. A.; Beresford, J. N.; Couch, M.; Poser, J. W.; Russell, R. G. G.
CS Med. Sch., Univ. Sheffield, Sheffield, SI0 2RX, UK
SO J. Endocrinol. (**1985**), 105(3), 391-6
CODEN: JOENAK; ISSN: 0022-0795
DT Journal
LA English
AB The effects of 6 natural vitamin D metabolites of potential biol. and

therapeutic interest, 1,25-dihydroxyvitamin D3 (1,25-(OH)2D3) [32222-06-3], 25-hydroxyvitamin D3 (25-OH-D3) [19356-17-3], 24R,25-dihydroxyvitamin D3 (24R,25-(OH)2D3) [55721-11-4], 1,24R,25-trihydroxyvitamin D3 (1,24R,25-(OH)3D3) [56142-94-0], 25S,26-dihydroxyvitamin D3 (25S,26-(OH)2D3) [42737-59-7], and 1,25S,26-trihydroxyvitamin D3 (1,25S,26-(OH)2D3) [**77372-59-9**] on cell replication and expression of the osteoblastic phenotype in terms of osteocalcin prodn. were examd. in cultured human bone cells. At a dose of 5 .times. 10-12 mol/L, 1,25-(OH)2D3 stimulated cell proliferation, whereas at higher doses (5 .times. 10-9-5 .times. 10-6 mol/L) cell growth was inhibited in a dose-dependent manner. The same pattern of effects was seen for the other metabolites in a rank order of potency: 1,25-(OH)2D3 > 1,25S,26-(OH)3D3 = 1,24R,25-(OH)3D3 > 25S,26-(OH)2D3 = 24R,25-(OH)2D3 = 25-OH-D3. Synthesis of osteocalcin was induced by 1,25-(OH)2D3 in doses similar to those required to inhibit cell proliferation. Biphasic responses were obsd. for some of the metabolites in terms of osteocalcin synthesis, inhibitory effects becoming apparent at 5 .times. 10-6 mol/L. The cells did not secrete osteocalcin spontaneously. These results indicate that vitamin D metabolites may regulate growth and expression of differentiated functions of normal human osteoblasts.

IT **77372-59-9**
RL: BIOL (Biological study)
(human bone cells proliferation and osteocalcin formation regulation by)

RN 77372-59-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



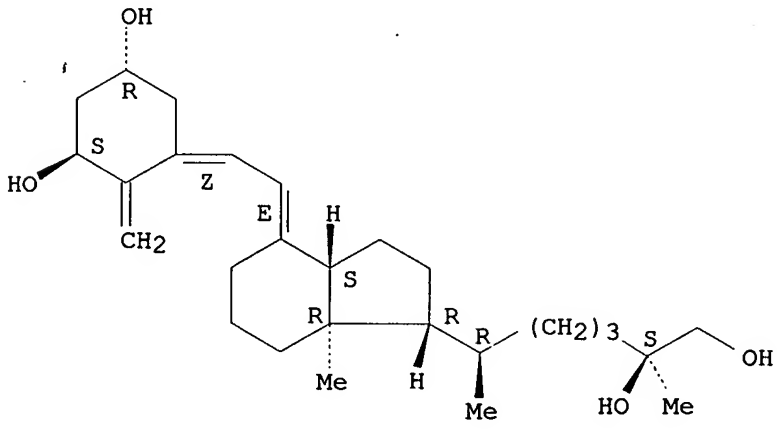

L13 ANSWER 70 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:132338 HCAPLUS
DN 102:132338
TI Stereoselective total synthesis of 1.alpha.,25S,26-trihydroxycholecalciferol
AU Wovkulich, P. M.; Barcelos, F.; Batcho, A. D.; Sereno, J. F.; Baggiolini, E. G.; Hennessy, B. M.; Uskokovic, M. R.
CS Chem. Res. Dep., Hoffmann-La Roche Inc., Nutley, NJ, 07110, USA

SO Tetrahedron (**1984**), 40(12), 2283-96
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB 1.alpha.,25S,26-Trihydroxycholecalciferol (I) was totally synthesized via an efficient convergent approach. The remote chiral center at C-25 was introduced by a regiospecific and diastereoselective 1,3-dipolar cycloaddn. of the C-23 nitrone II with H2C:CMeCO2Me. Subsequent transformation of the resulting isoxazolidine III gave the key synthon IV, whose coupling to the anion V and deprotection gave I.
IT **77372-59-9P**
RL: RCT (Reactant); PREP (Preparation)
(stereoselective total synthesis of)
RN 77372-59-9 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25,26-tetrol, (1.alpha.,3.beta.,5Z,7E,25S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.




L13 ANSWER 71 OF 95 HCAPLUS COPYRIGHT 2002 ACS
AN 1985:6936 HCAPLUS
DN 102:6936
TI Stereoselective synthesis of (25R)-25,26-dihydroxy-23-oxovitamin D3 and its enzymatic conversion to (25R)-1.alpha.,25,26-trihydroxy-23-oxovitamin D3, a putative metabolite of vitamin D3
AU Yamada, Sachiko; Nakayama, Keiko; Takayama, Hiroaki; Shinki, Toshimasa; Suda, Tatsuo
CS Fac. Pharm. Sci., Teikyo Univ., Sagamiko, 199-01, Japan
SO Tetrahedron Lett. (**1984**), 25(30), 3239-42
CODEN: TELEAY; ISSN: 0040-4039
DT Journal